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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/713,522 | 11/14/2003 | Krishnan Chari | 85501KNM | 9951 |

7590 06/02/2006
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EXAMINER

HAQ, SHAFIQUL

ART UNIT PAPER NUMBER

1641

DATE MAILED: 06/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|------------------------|---------------------|--|
| Office Action Summary | Application No. | Applicant(s) | |
| | 10/713,522 | CHARI ET AL. | |
| | Examiner | Art Unit | |
| | Shafiqul Haq | 1641 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 12-33 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>3/20/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. Fig. 1 is not properly labeled. Description of fig 1 (lines 19-21 of the specification) does not match with Fig. 1. As addressed in Applicants' response of 3/20/06, replacement figures 1-2 have not been received by the office.

Response to election/restriction

2. Applicants' election with traverse of Group I, Claims 1-11, drawn to a composition, filed March 20, 2006 is acknowledged. Applicants argued that the wording of claim 1 (group I) indicates the coating composition is for making an array. As discussed in paragraph ?, the recitation "for making an array", do not carry any patentable weight because the recitation occurs in the preamble and therefore, the composition of group I while not being bound to any solid substrate can be used in printing media (i.e. has separate utility). Applicants' also argued that the claims can be examined together without undue burden. This is not found persuasive because of the reasons of record on pages 2-6 in Office Action of November 17, 2005. In addition, the search for each of the distinct inventions of Groups I-V is not co-extensive particularly with regard to the literature search. Further, a reference that would anticipate the invention of one group would not necessarily anticipate or even make obvious another group.

Finally, the condition for patentability is different in each case. A patentability determination for Invention I would require an assessment of the novelty and unobviousness of the microarray composition immobilized on a substrate recited in

claim 12 while a patentability determination for invention II would require an assessment of the novelty and unobviousness of the method steps for making a mictory recited in claim 30. Similarly, a patentability determination for Invention IV would require an assessment of the novelty and unobviousness of the composition comprising a capsule containing dye represented by formula (I) while a patentability determination for invention V would require an assessment of the novelty and unobviousness of the composition comprising a capsule containing dye represented by formula (II) as recited in claim 33. Thus, it will be an undue burden to examine all the inventive Groups in one application.

Therefore, the restriction requirement is still deemed proper and is made **FINAL**.

3. Claims 1-11 are examined on merits.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. Claim 1 recites the term "precursor to a gelling agent". It is not clear what compound or compounds are encompassed by the term "precursor to a gelling agent" as the term is not clearly defined in the specification.

Claim Rejections - 35 USC § 102

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7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

8. A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-3 and 9-10 are again rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al (EP 1127707 A1).

Chen et al. disclose a coating composition comprising a dye-containing polymeric latex and gelling agent (e.g. gelatin) (see claims 1 and 5) and at least one of the nickel metallized dye of the reference (see paragraph [0025]) anticipates the dyes (formula (I) and formula (II)) of present application.

As for claims 9-10, Chen et al. disclose the microspheres (polymeric latex) to be comprised of synthetic polymeric materials (paragraphs [0014-0016]).

With respect to the recitation “for making a protein microarray” in line 1 of claim 1, the recitation has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 195

Therefore, the reference is deemed to anticipate the cited claim.

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10. Claims 1-3 are again rejected under 35 U.S.C. 102(b) as being anticipated by Evans et al (US 4420550).

Evans et al. disclose a coating composition comprising a dye-containing emulsion and gelling agent (e.g. gelatin) (column 2, lines 29-30 and column 28, lines 55-66) and at least one of the nickel metallized dye of the reference (columns 17-24) anticipates the dyes (formula (I) and formula (II)) of present application. As discussed in paragraph 19 above, "microspheres" by definition are suspensions when dispersed in liquid (source: QTL biosystem) and therefore, "emulsion" which is a "suspension" of small globules on one liquid with which the first will not mix, fits the definition of "microspheres".

With respect to the recitation "for making a protein microarray" in line 1 of claim 1, the recitation has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See In re Hirao, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and Kropa v. Robie, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 195

Therefore, the reference is deemed to anticipate the cited claim.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 1-11 are again rejected under 35 U.S.C. 103(a) as being unpatentable over Noonan et al. (US 5334575) in view of Evans et al. (US 4420550).

Noonan et al. disclose a coating composition comprising a gelling agent (e.g. gelatin) (column 2, lines 47-53) and microsphere (beads) containing a magenta dye (column 1, lines 5-7; column 6, lines 23-28, 63-65). As for claims 6-8, Noonan disclose that the beads size are approximately 0.1 to about 20um.

With respect to the recitation "for making a protein microarray" in line 1 of claim 1, the recitation has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 195).

Noonan et al. disclose magenta dye but fail to disclose nickel metallized dye of formula (I) and formula (II) of present application.

Evans et al. as discussed in paragraph 24 above, disclose a coating composition comprising magenta dye of formula (I) and (II) of present application. Evans et al. also disclose that the metallized dye have less unwanted absorption than other metallizable dyes (column 1, lines 30-35).

Therefore, given the above fact that magenta dye of present application (formula I and II) is known in the art as coating composition and is useful for its less absorptive properties, it would have been obvious at the time of the invention to a person of ordinary skill in the art to substitute equivalent magenta dye of Evans et al in the coating composition of Noonan et al, with the expectation of obtaining a similarly useful dye-coating composition.

13. Claims 1-11 are again rejected under 35 U.S.C. 103(a) as being obvious over Qiao et al. (US 5334575) in view of Evans et al. (US 4420550).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under

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35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Qiao et al disclose a microarray coating composition comprising a gelling agent (column 3, lines 2-5 and column 4, lines 20-41) and microsphere (beads) containing a magenta dye (column 4, lines 42-63 and column 9, lines 27-33). As for claims 6-8, Qiao et al disclose beads size of 1 to 50 microns (column 6, lines 19-25) and as for claims 9-11, Qiao et al disclose the beads comprising polystyrene (column 9, lines 6-11).

With respect to the recitation "for making a protein microarray" in line 1 of claim 1, the recitation has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 195).

Qiao et al disclose magenta dye but fail to disclose nickel metallized dye of formula (I) and formula (II) of present application.

Evans et al. as discussed in paragraph 24 above, disclose a coating composition comprising magenta dye of formula (I) and (II) of present application. Evans et al. also disclose that the metallized dye have less unwanted absorption than other metallizable dyes (column 1, lines 30-35).

Therefore, given the above fact that magenta dye of present application (formula I and II) is known in the art as coating composition and is useful for its less absorptive properties, it would have been obvious at the time of the invention to a person of ordinary skill in the art to substitute equivalent magenta dye of Evans et al in the coating composition of Qiao et al, with the expectation of obtaining a similarly useful microarray coating composition.

14. Claims 1-11 are again rejected under 35 U.S.C. 103(a) as being obvious over Qiao et al. (US 2003/0224361 A1) in view of Evans et al. (US 4420550).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under

35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Qiao et al disclose a microarray coating composition comprising a gelling agent and microsphere (beads) (see abstract and paragraphs [0027 and 0040] and claims 1-14) containing a magenta dye (paragraph [0040]). As for claims 6-8, Qiao et al disclose beads size of 1 to 50 microns (paragraph [0033]) and as for claims 9-11, Qiao et al disclose the beads comprising polystyrene (paragraph [0039])

With respect to the recitation "for making a protein microarray" in line 1 of claim 1, the recitation has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 195).

Qiao et al disclose magenta dye but fail to disclose nickel metallized dye of formula (I) and formula (II) of present application.

Evans et al. as discussed in paragraph 24 above, disclose a coating composition comprising magenta dye of formula (I) and (II) of present application. Evans et al. also disclose that the metallized dye have less unwanted absorption than other metallizable dyes (column 1, lines 30-35).

Therefore, given the above fact that magenta dye of present application (formula I and II) is known in the art as coating composition and is useful for its less absorptive properties, it would have been obvious at the time of the invention to a person of ordinary skill in the art to substitute equivalent magenta dye of Evans et al in the coating composition of Qiao et al, with the expectation of obtaining a similarly useful microarray coating composition.

Response to Argument

15. Applicant's arguments filed 3/20/06 have been fully considered, and are persuasive to overcome some rejections under 35 USC 112, but they are not persuasive to overcome the rejections under 35 USC 102 and 35 USC 103.

With respect to rejection under 35 USC 112 for the term "precursor to gelling agent", it is understandable that in plain language it means substance or compounds from which a gelling agent is made but the rejection was based on the indefiniteness of the substances or compounds "encompassed by the term" i.e. what substances or compounds "are encompassed as precursor" to gelling agent by the term "precursor to gelling agent" is unclear.

With respect to Applicants' argument for rejection under 35 USC 102 (Chen et al), the recitation "for making a protein microarray" in preamble of claim 1, has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the

process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 195). With respect to recitation "low fluorescent dye represented by the formula (I)", the low fluorescence property is inherent in the dye of Chen et al because water-insoluble Dye-1 (analogue of control dye-1) of Chen et al (paragraph [0025]) reads on Formula (II) of instant application. Both the dye have same structure and are expected to have the same property. MPEP §2112 states "[Where] the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established." *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977)(emphasis added).

With respect to Applicants' argument for rejection under 35 USC 102 (*Evans et al*), the above argument is also applicable because *Evan et al* disclose dyes (see compounds 17-23) that reads on the dye of Formula (I) and Formula (II) of instant application. Moreover, silver "halide emulsion" also falls under the definition of microsphere i.e. minute sphere (spherical and non-spherical particles). Therefore, the reference still anticipates the cited claims.

In response to applicant's argument for 35 USC 103 rejections, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references

themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fines*, 837 F.2d 1071, 5USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir.1992). In this case Noonan et al ('575 patent), Qiao et al ('620 patent) and Qiao et al (US 2003/0224361) disclose magenta dye in the composition and Evans et al disclose that nickel metallized dye have less unwanted absorption than other metallizable dye (column 1, lines 30-35). Since nickel metallized magenta dye have added advantage (i.e. less unwanted absorption), it would be obvious to substitute other magenta dye (i.e. magenta dye of Evans' and Qiao's) with the nickel metallized magenta dye of Evans et al., with the expectation to decrease unwanted absorption, with a reasonable expectation of success.

Conclusion

16. No claims are allowed.

17. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will


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the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shafiqul Haq whose telephone number is 571-272-6103. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V. Le can be reached on 571-272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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ART UNIT 1641


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05/30/06